UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

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Department of Environmental Protection
Policy Office
Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105 2063

Dir Sir or Madam:

Thank you for the opportunity to comment on Pennsylvania Department of Environmental Protection's (PADEP) Draft 2016 Assessment Methodologies. The Environmental Protection Agency (EPA) supports PADEP's efforts to develop an assessment protocol to evaluate nutrient impacts to wadeable streams and refining other assessment protocols as needed. EPA encourages PADEP to respond to public comments quickly and implement the nutrient impact assessment protocol as soon as possible. EPA supports the use of PADEP's nutrient impact assessment protocol in your 2016 Integrated Report. Outlined below are comments from the EPA on PADEP's assessment documents.

ASSESSMENT AND LISTING METHODOLOGY FOR INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORTING

1. Section (ix) Evaluate all relevant lines of evidence: EPA reminds PADEP that EPA has a policy of independent application for determining attainment of water quality standards. If any water quality standard is exceeded than a waterbody should be listed as impaired.

2. Section 2) Aquatic Life Use Data: EPA encourages PADEP to continue exploring methods to biologically assess non-wadeable rivers/streams.

3. Section 8) Distribution of Waterbodies into Use Attainment Categories: Category 4B waters must have an enforceable regulatory mechanism in place that will address the impairments.

NUTRIENT IMPACT ASSESSMENT PROTOCOL FOR WADEABLE STREAMS

1. EPA commends PADEP on your efforts on developing a quantitative methodology to determine nutrient impacts to aquatic life use in Pennsylvania's wadeable streams and rivers. EPA encourages PADEP to expand your nutrient assessment methods to include non-wadeable streams and rivers also.

2. Nutrient impairments may be present independent of a macroinvertebrate assemblage impairment. PA should consider evaluating nutrient impairments independent of macroinvertebrate impairments to ensure potential nutrient impairments are not missed and to provide adequate protection of Pennsylvania waters.

3. EPA suggests adding an optional evaluation of benthic chlorophyll biomass to the Tier 2 screening as a substitution or alternative to collection of continuous dissolved oxygen (DO) data. There may be waters that experience nutrient stress and do not exhibit a diel DO fluctuation that meets PADEP criteria. An alternative measurement of chlorophyll biomass with a listing threshold may identify those waters. Measuring algal biomass could be used at the discretion of DEP biologists (to minimize staff and contractor resources) when diel DO measurements are inconclusive or unavailable.

4. EPA suggests allowing the use of discrete DO measurements to show a daily diurnal DO swing in additional to continuous monitoring data for evaluating Tier 2 max diel DO range. An early morning DO reading and late afternoon DO reading can be used to determine the diel DO change that occurred that day. Handheld meters are easily calibrated and provide reliable data. Discrete handheld DO data could provide a reliable secondary technique to evaluate diurnal swings when a sonde is not available. The use of discrete DO data could help evaluate nutrient impacts with limited sonde resources and prevent delayed nutrient listings.

5. Has PADEP determined a minimum sonde deployment length to evaluate diel DO swings? This may pose a significant equipment/resource need. Has PADEP considered how this will be handled? How will waters be categorized pending completion of Tier 2?

6. Has PADEP determined critical conditions that must be evaluated to determine if nutrients are an aquatic life use stressor?

7. To ensure nutrient impairments are not missed due to seasonal differences in diel DO swings, suspected nutrient impaired streams should have diel DO swings evaluated in early spring prior to leaf out and summer. If either season fails the protocol the stream should be listed as impaired due to nutrients. Nutrients should not be dismissed as a potential cause of impairment until both seasons are evaluated.

8. Aquatic life use (ALU) attaining streams passing benchmarks used in the data analysis probably do not exhibit the same diel DO swings and characteristics of nutrient impaired streams due to the lack of heavy algal growth. For example, maximum diel DO swings in Wissahickon Creek are greater in the spring prior to leaf out compared to the summer when shading is increased. Please explain how those potential differences were taken into account in PADEP's analysis?

RECREATIONAL USE ASSESSMENT METHODOLOGY BACTERIOLOGICAL SAMPLING PROTOCOL

1. EPA suggests removing the recommendation that bacteriological sampling for determining water contact recreational use attainment occurs at average or low flow conditions. Although there is a lower likelihood of recreational activities occurring during elevated flow events, wet-weather conditions deliver substantial bacterial loads to streams and should not be avoided during recreational use surveys.

LAKE ASSESSMENT PROTOCOL

1. EPA and PADEP undertook an N-STEPS project in 2014 evaluating PADEP's lake water quality data. Please explain how/if the results of the N-STEPS project were used in developing lake assessment methods especially for nutrient impairments.

2. EPA suggests PADEP develop a lake assessment method for evaluating harmful algal bloom impacts to recreational and potable water supply uses.

EPA looks forward to continuing to work with the Department on water quality monitoring and assessment issues including the 2016 Integrated Report. If you have any questions or need any clarification, please contact Bill Richardson at 215-814-5675.

Sincerely,

Evelyn S. MacKnight

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